

**A NEW SPECIES OF URANIIDAE (LEP.) AND A NEW SPECIES OF LIMACODIDAE (LEP.) FROM FIJI**

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A recent collection of Lepidoptera from Fiji has revealed two previously undescribed species. These are described here as *Phazaca nakula* sp.n. (Uraniidae) and *Beggina bicornis* sp.n. (Limacodidae).

**Family: Uraniidae**

Genus: *Phazaca* Walker, 1862, *List Specimens Lepid. Insects Colln. Br. Mus.* 27:21.

Two species of *Phazaca* are recorded from Fiji – *P. cythera* (Swinhoe, 1902) and *P. yasawa* (Robinson, 1975) comb. n. Robinson (1975: 314) refers to a single worn specimen which appears to represent a third species. His description is consistent with the species described here. This is very similar to *P. cythera*, and the male and female of both species are illustrated in Plate K, Figs 1-4.

*Phazaca nakula* sp.n.

Male: (Plate K, Fig. 1) Expanse 14-16 mm. Body pale greyish brown. Antennae dentate. Forewing greyish brown, with traces of a darker brown post-medial band, especially around and just below the reniform. A series of four black apical dots, of approximately equal size. Hindwing similarly coloured, with a white section in the anterior third, running the full length of the costa, but not extending to the distal margin below the apex. The distal margin of the white section meets the costa at an acute angle of between 50 and 60 degrees, and the white colouration includes the apical tuft. The general brown colouration is suffused with darker reddish brown adjacent to this white section. Genitalia with aedeagus showing multiple, curved cornuti, arranged in two groups. (Fig. 1a).

Female: (Plate K, Fig. 2) Expanse 15-17 mm. Similarly patterned to the male. Antennae filiform. Genitalia with bursa copulatrix showing signum in the form of a star, with approximately twenty radiating points of roughly equal length (Fig. 1c).

Diagnosis: The presence of the white section in the hindwing serves to differentiate *P. nakula* from *P. yasawa*, in which the hindwing is a uniform greyish brown. *P. nakula* is somewhat smaller than *P. cythera* (expanse 16-23 mm), from which it may most easily be separated by the shape and extent of the white section (see Plate K). In *P. cythera*, the distal margin of the section meets the costa at an angle of between 90 and 100 degrees, compared to the acute angle in *P. nakula*. In *P. nakula*

the white section includes the apical tuft, which is itself white; in *P. cythera* it terminates on the costa before the tuft, which is brown. In *P. nakula*, the posterior margin of the section is smooth, whereas in *P. cythera* there is a prominent notched indentation at just over one half. The apical dots on the forewing may also be diagnostic characteristics. In *P. nakula* there are four of approximately equal size, whereas in *P. cythera* there are three, with the middle one considerably larger than the other two.

Although the general form of the male genitalia is somewhat featureless, the aedeagus shows good diagnostic features. *P. nakula* has multiple cornuti arranged in two large, prominent groups (Fig. 1a), whereas *P. cythera* has a single structured cornutus (Fig. 1b). In the female, both show a star-like signum, displaying approximately twenty points. In *P. nakula* these are of roughly equal length (Fig. 1c), whereas in *P. cythera* the points are of widely varying lengths, and the overall size is considerably greater (Fig. 1d).

Holloway (1998: 128-129) discusses three closely related species from Borneo. *P. cesena* (Swinhoe, 1861) shows clearly defined postmedials on both wings which are largely absent in *P. nakula*. In the male genitalia, the aedeagus of *P. cesena* lacks the prominent group of conuti shown in *P. nakula*. In the female genitalia of *P. cesena*, the signum is approximately twice the diameter of that in *P. nakula*. In *P. monticesena* Holloway 1998, the white hindwing costal zone is of a clearly different shape to that in *P. nakula*, and in the female genitalia the signum is similar to that of *P. cythera*. In *P. cesenaleuca* Holloway 1998, the white hindwing costal zone is absent.

Distribution: Six males and five females taken in coastal rain forest adjacent to coconut plantations at Nakula Estate, Cakaudrove Province, North-Eastern Vanua Levu from 1995 to 1998.

Holotype: ♂ FIJI, Vanua Levu, Cakaudrove Province, grid ref: S22/2213, 1.i.1998, J.A. Clayton.

Paratypes: 2 ♀ 27.v.1995, 22.ix.1997, 3 ♀ 27.ix.1997, 2.i.1998, 2.i.1998, other data as holotype. The other specimens are in poor condition, and have therefore not been included in the type series.

### Family: Limacodidae

Genus: *Beggina* Hering in Seitz, 1931, *Macrolepid. World* 10:702.

Robinson (1975: 317-320) discussed this genus, with particular reference to its degree of radiation in Fiji, and figured the male genitalia of the Fijian species. He noted it as containing seven species; the type species *B. lymantrina* Hering from the Solomon Islands, and six species, *B. albifascia* Robinson 1975, *B. dentilinea* Robinson 1975, *B. minima* Robinson 1975, *B. mediopunctata* Hering 1931, *B. zena* Robinson 1975 and *B. unicornis* Robinson 1975, endemic to Fiji. All except *B. mediopunctata* were found to occur in very low numbers.

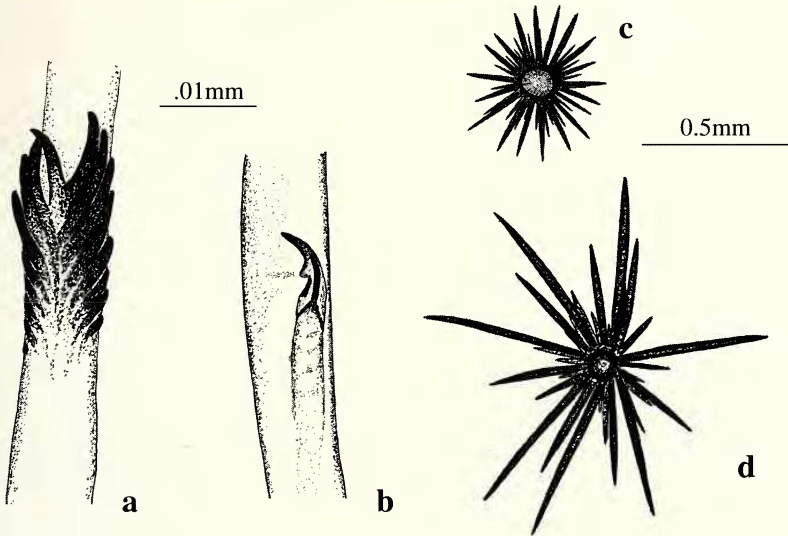


Fig. 1: *Phazaca* spp.

detail of aedeagus – a: *P. nakula* sp. nov. paratype; b: *P. cythera* Swinhoe signum of female  
 c: *P. nakula* sp. nov. paratype; d: *P. cythera* Swinhoe

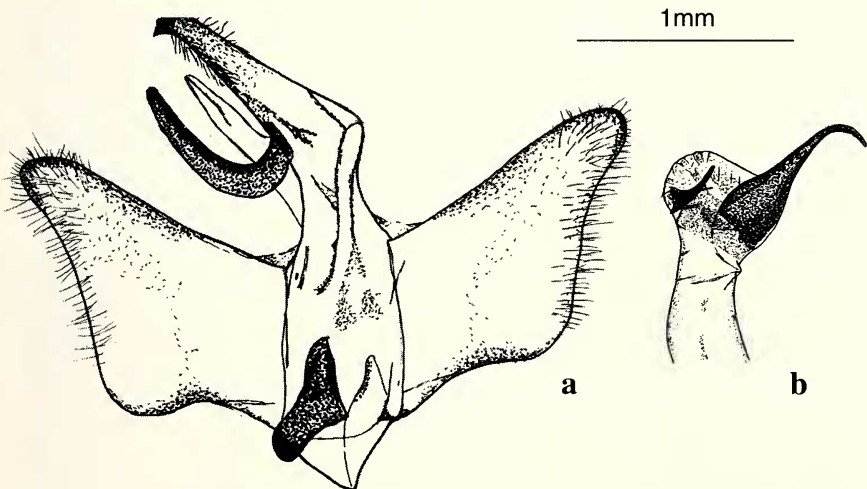


Fig. 2: *Beggina bicornis* sp. nov.

a: holotype male genitalia; b: detail of holotype male aedeagus

*Beggina bicornis* sp.n.

Male: (Plate K, Fig. 5) Expanse 18mm. Body warm brown. Antennae bipectinate throughout, the longest pectinations being one fifth the length of the antennae. Forewing uniform warm brown, flecked with a few paler, yellowish scales, especially posteriorly and distally. No visible lines or bands. Hindwing pale cream, with light pinkish-brown suffusion, mainly antero-distally. Fringes pale pinkish brown. Genitalia (Fig. 2a) with gnathos lightly sclerotised, almost reaching tip of uncus. Juxta forming a short digital process. Valves with bulbous broadening at two fifths, wider than at base. Aedeagus (Fig. 2b) large. Apex produced into two pointed sclerotised processes, one much larger than the other and bulbous at the base.

Female: Unknown.

Diagnosis: The plain forewing serves to separate *B. bicornis* from other Fijian *Beggina* species, except small, poorly marked examples of *B. mediopunctata*, from which it may be distinguished by the paler hindwing. In the male genitalia the shape of the valves is diagnostic, as are the two apical processes on the aedeagus.

Distribution: Known from a single male taken in relatively undisturbed rain forest at an altitude of 200m, Namosi Hills, Viti Levu.

Holotype: FIJI, Viti Levu, Namosi Province, grid ref. N29/3978, 12.xii.1996, J.A. Clayton.

All types and genitalia slides of both species have been deposited in the National Museums of Scotland, Edinburgh.

### Acknowledgements

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### References

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**Plate K.**

*Phazaca*

- 1: *Phazaca nakula* sp. nov. Holotype male
- 2: *Phazaca nakula* sp. nov. Paratype female
- 3: *Phazaca cythera* Swinhoe male
- 4: *Phazaca cythera* Swinhoe female
- 5: *Biggina bicornis* sp. nov. Holotype male